

REMARKS/ARGUMENTS

Claims 1-21 are pending in this application.

Claims 1-6, 8-18, 20, and 21 had been rejected under 35 U.S.C. § 102(b) over Schulze (US Patent No. 4,561,947). These rejections are respectfully traversed for the following reasons.

Unless a publication discloses within the four corners of the document not only all of the elements and limitations claimed but also all of the elements and limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.¹

Contrary to what is claimed, Schulze does not disclose an oxygen-containing oxidant and a reducing agent generating reaction products that react or form complexes with a metal in an ore

Claims 1-6, 8-18, 20, and 21 comprise an oxygen-containing oxidant and a reducing agent generating reaction products that react or form complexes with a metal in an ore (thereby extracting the metal from the ore).

Schulze, contrary to the present invention, does not disclose a metal in an ore interacting with any product of an oxygen-containing oxidant and a reducing agent reacting with each other. The only compounds reacting with the metal in the ore, as disclosed by Schulze, are thiourea or acids: “the adsorbed noble metals are washed out of the ore residues with concentrated thiourea solution and possibly with acids.” (col. 3, lines 6-8). Neither thiourea, nor acids in Schulze are products of an oxygen-containing oxidant’s and a reducing agent’s reaction.

¹ Net MoneyIN v. Verisign, No. 2007-1565, slip. op. at 17-18 (Fed. Cir. Oct. 20, 2008)

Schulze teaches that “[t]he reduction agent is to be added in an amount such that only the oxidised thiourea is reformed. The amount of reduction agent to be added can be determined from the analytically determined thiourea decrease in the digestion leaching liquor, one reduction equivalent thereby corresponding to one mole of oxidised thiourea.” (col. 5, lines 1-6). This is the only use of the reduction agent disclosed in Schulze; this is contrary to the present invention, where a reducing agent reacts with an oxygen-containing oxidant for subsequent use of the products of this reaction to react with the metal in the ore.

Alkaline cyanide leaching and usage of thiourea are excluded by Claims, and no other alternatives are disclosed in Schulze

Furthermore, Claims 1-6, 8-18, 20, and 21 are directed to methods which use no thiourea at all and no combination of thiourea with any agent; the methods of Claims 1-6, 8-18, 20, and 21 are only performed in an environment where complexing agents come from a group consisting of the ore, the oxygen-containing oxidant, the solvent, the reducing agent, and products of their reactions. This element of Claims 1-6, 8-18, 20, and 21 **excludes** from the claimed invention any complexing agents except those recited in the Claims 1-6, 8-18, 20, and 21.

Schulze’s patent’s title is “Process for the Recovery of Noble Metals from Ores; Which Process Uses Thiourea”. Schulze’s method depends for its operation entirely on presence of thiourea as a complexing agent, which is a critical element of the Schulze method. “Surprisingly, we have now found that, with the help of thiourea, it is possible, when maintaining certain reaction conditions, to recover noble metals from their ores in relatively short leaching times and in high yield.” Schulze, col. 1, lines 65-68. “The process of the [Schulze’s] invention depends upon the surprising recognition that the leaching of noble metal-containing ores with thiourea is carried out in the simultaneous presence of an oxidation agent and of a reduction agent.” Schulze, col. 2, lines 33-37.

For support of the 35 U.S.C. § 102(b) rejection, Examiner argues (pending Office Action, page 3) that the following portion of Schulze discloses the aforementioned element:

“Thus, according to the present invention, there is provided a process for the hydrometallurgical recovery of noble metals from materials containing them by treatment with thiourea in an aqueous, acidic medium in the presence of an oxidation agent, wherein the aqueous medium simultaneously contains an oxidation agent and a reduction agent.

The use of thiourea is especially preferred since, by means of its action, noble metals are brought into solution especially quickly in the form of complexes. Therefore, it can be used in relatively high concentrations in the case of the simultaneous presence of an oxidation agent, cheap ferric salts being preferably used.” Schulze, col. 2, lines 1-13.

Examiner argues (pending Office Action, page 5) that Schulze describes usage of thiourea as “preferred” (col. 2, lines 1-13, quoted above) and that it means that Schulze also somehow discloses a thiourea-free method.

Applicants respectfully disagree. In Schulze, the usage of thiourea is preferred over usage of alkaline cyanide leaching solutions (col. 1, lines 11-18):

In the process technology of noble metal recovery today, alkaline cyanide leaching solutions are generally used in which atmospheric oxygen acts as oxidation agent. This use of dilute alkali metal cyanide solutions requires large volumes, as well as long reaction times, which is disadvantageous for the chemical, energy and investment costs and thus for the production costs of the noble metals.

In other words, Schulze discloses only two alternatives used in its method -- alkaline cyanide leaching and usage of thiourea (and the usage of thiourea is described as the preferred alternative).

Note that alkaline cyanide leaching and usage of thiourea are the **only** alternatives disclosed in Schulze: either the former or the latter **must** be present, according to Schulze, if one is absent, the other must take its place, otherwise the method of Schulze cannot occur.

Since neither thiourea, nor the alkaline cyanide leaching solutions belongs to the exclusive group of complexing agents recited in Claims 1-6, 8-18, 20, and 21, therefore, the word “preferred” in Schulze does not make any of Claims 1-6, 8-18, 20, and 21 read on Schulze directly or in the alternative.

Schulze requires thiourea to be present if a reduction agent is present, and a reduction agent to be absent if thiourea is absent

Furthermore, Schulze teaches that “[t]he reduction agent is to be added in an amount such that only the oxidised thiourea is reformed.” The amount of reduction agent to be added can be determined from the analytically determined thiourea decrease in the digestion leaching liquor, one reduction equivalent thereby corresponding to one mole of oxidised thiourea.” (col. 5, lines 1-6, emphasis added). In other words, according to Schulze, if thiourea is not present, neither should a reduction agent be present; this is contrary to the present invention as claimed, where thiourea is not present, but a reduction agent must be.

Schulze does not disclose Claims inherently; neither MPEP 2112.01 nor *In re Best* are relevant

Examiner argues (pending Office Action, page 5) that Schulze’s disclosure inherently discloses the elements of Claims 1-6, 8-18, 20, and 21.

Inherency means that an element is necessarily present in a disclosure, even though it is not mentioned explicitly.²

Examiner uses MPEP 2112.01 and *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977) to support a *prima facie* case of anticipation; however, neither MPEP 2112.01 (entitled "Composition, Product, and Apparatus Claims"), nor *In re Best* (establishing that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established) are relevant for rejection of **method** claims, such as Claims 1-6, 8-18, 20, and 21 (as opposed to composition, product, and apparatus claims). Applicants' Claims are not directed to a product or a product-by-process, or an apparatus or composition, as discussed in the referenced MPEP section, but to methods. As it has been explained above, the method of Schulze is different from the claimed methods at least in that Schulze mandates the presence of either thiourea or the alkaline cyanide leaching solutions in its methods, and this is what the methods claimed in the present application exclude.

Furthermore, Schulze does not disclose an oxygen-containing oxidant and a reducing agent generating reaction products that react or form complexes with a metal in an ore and does not disclose agents forming complexes belonging to an exclusive group, as in Claims 1-6, 8-18, 20, and 21. Therefore, Claims 1-6, 8-18, 20, and 21 are novel and patentable over Schulze under 35 U.S.C. § 102(b) and should be allowed.

Claims 7 and 19 had been rejected under 35 U.S.C. § 103(a) over Schulze. These rejections are respectfully traversed for the following reasons.

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious.³

² *In re Robertson*, 169 F.3d 743, 745-49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)

Claims 7 and 19 depend on Claims 1 and 14, which, as explained above, are patentable and, therefore, non-obvious. Therefore, Claims 7 and 19 are patentable over Schulze under 35 U.S.C. § 103(a) and should be allowed.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited in this case. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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³ In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).